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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

002664-9

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Application Number

10/596,616

Filed

06-19-2006

First Named Inventor

Stefan KÄDING et al.

Art Unit

1795

Examiner

Matthew J. Merkling

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

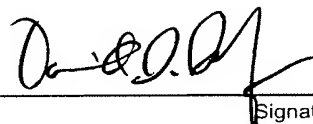
I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒ attorney or agent of record.
Registration number 27,997

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____



Signature

David S. Safran

Typed or printed name

703-584-3273

Telephone number

July 1, 2010

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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|------------------------------|--------------------------------|
| In Re Patent Application of |) |
| Stefan KÄDING et al. |) Examiner Matthew J. Merkling |
| Application No. 10/596,616 |) Group Art Unit 1795 |
| Filing Date: June 19, 2006 |) Confirmation No. 8463 |
| For: REFORMER AND METHOD FOR |) |
| REACTING FUEL AND OXIDANT TO |) |
| REFORMATE |) |

ARGUMENTS IN SUPPORT OF REQUEST FOR PRE-APPEAL BRIEF REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The following arguments presented in support of a Request for Pre-Appeal Brief Review filed with a Notice of Appeal from the Final Office Action issued April 1, 2010, in connection with the above-captioned patent application.

ARGUMENTS

Claims 13-15 and 18-21 stand rejected under 35 USC § 103 as being unpatentable over the Sennoun et al. patent (hereafter, "Sennoun") when viewed in combination with the Marchand et al. patent application publication (hereafter, "Marchand").

As acknowledged by the Examiner, neither Sennoun nor Marchand discloses having a portion of the mixture produced in the oxidation zone supplied to the reforming zone in a manner bypassing the injection and mixture forming zone or any means for doing so. However, in recognition of the fact that this is a claimed feature of the present invention that has been argued as a basis for patentability, the Examiner has asserted that Marchand teaches the desirability of direct heat exchange of the catalyst and that would lead one of ordinary skill to provide Sennoun's device and method with a bypass passage to allow the mixed gas stream to pass directly from the oxidation zone to the reforming zone to provide a faster heatup of the catalyst. However, it is submitted that the Examiner has over-generalized the teachings of Marchand and in doing so has mischaracterized what they might suggest to one of ordinary skill. Moreover, since Marchand does not teach use of a bypass, unexplained by the Examiner is why Marchand's teaching would lead one of ordinary skill to use a bypass in a way that neither applied referenced does.

That is, according to Marchand additional oxidant can be fed during a start up phase at different points to accelerate the startup phase by exothermic reactions. In paragraph [0109] Marchand points out that this preheating is via an "additional direct heat source" that is not restricted by the thermal conductivity of the surrounding material. However, the disclosed manners of providing an "additional direct heat source" do not involve providing a bypass of the type disclosed and claimed by the present application. To the contrary Marchand describes very different means for providing an "additional direct heat source" in paragraph [0111] where it is described that such means can be provided by, for example:

the tops of the reformer tube(s) may be heated externally by combustion gases from the reformer burner. After the tops of the reformer tube(s) have reached a suitable temperature, fuel and oxidant (and optionally, steam) are directed to the reformer tube(s). Ignition of the catalytic combustion reaction occurs when the reactant gases come into contact with the heated reformer tube walls near the top of the tube. By controlling the flow rate of the reactant gases, the reaction front can propagate back to the front portion of the bed, heating the entire catalyst bed. Other methods of heating at least a portion of the catalyst

bed may also be suitable depending on the design and construction of the steam reformer. For example, a heating device, such as a resistive heating element, igniter, or glow plug could be placed within or near the catalyst bed, if desired.

None of these additionally heating means involve the use of a bypass, and they even could be said to teach away from use of a bypass (a point argued to the Examiner and not addressed by him). Furthermore, Figs. 1 to 6 describe additional oxidant supplies at different entrance points near the different catalysts where the exothermic catalytic combustions take place. Such a showing by Marchand teaches something that resembles several injection and mixture forming zones and not the bypassing of a portion of the mixture produced in the oxidation zone according to claims 13 and 18 of the present patent application.

Providing a reformer and method as disclosed and claimed herein with the recited "bypassing feature" is particularly advantageous, since gas mixtures of different compositions can be transferred from the oxidation zone into the reforming zone. On this basis, different paths for the gas mixture from the oxidation zone to the reforming zone are available, namely, either via the injection and mixture forming zone or via various bypassing connections between the oxidation zone and the reforming zone. Transferring a gas mixture from an upstream point of the oxidation zone to a downstream point of the reforming zone has a different influence on the reforming than transferring a gas mixture from a downstream point of the oxidation zone to an upstream point of the reforming zone (another point argued to the Examiner and not addressed by him). This advantage is not recognized by either reference not is any other reason evident as to why a technique not recognized to be suitable or advantageous by either reference would be adopted without impermissible hindsight use of applicants' own disclosure.

The Examiner has merely asserted without supporting basis that "the concept of Marchand is sufficient to lead one of ordinary skill in the art to direct at least a portion of the gas mixture directly (bypassing all other areas of the apparatus) to the reforming catalyst to expedite the heatup of the reforming catalyst and commence the reforming reaction." However, unexplained by the Examiner is how or why this is the case when a bypass technique is neither taught by these references nor is equivalent to that which is taught by them. It is submitted that the Examiner is essentially taking an approach that has been

discredited by both the Board and the Federal Circuit, i.e., equating that which is within the capabilities of one skilled in the art with obviousness. See, *Ex parte Gerlach and Woerner*, 212 USPQ 471 (1980) “There is nothing in the statutes or the case law which makes ‘that which is within the capabilities of one skilled in the art’ synonymous with obviousness” and *In re Gordon*, 221 USPQ 1125 (1984) in which the Federal Circuit pointed out that the mere fact that a modification could be made does not make it obvious absent a teaching of the desirability to do so.

Additionally, while it is recognized that the actions of other patent offices are not binding on the Examiner, it is indicative of the unobviousness of the present invention that the present claims correspond substantially to the subject matter on which patents have been granted by the German, Australian and Korean Patent Offices.

For all of the above reasons, it is submitted that the § 103 rejection based upon the Sennoun and Marchand references should be withdrawn and action by the Panel to that effect is requested.

Claim 16 was rejected under 35 USC § 103 as being unpatentable over Sennoun when viewed in combination with the Kudo et al. patent. However, since Kudo et al. have no teachings suggestive of applicants’ claimed bypassing of the injection and mixture forming zone, this rejection is inappropriate for all of the reasons indicated above, and thus, should be withdrawn by the Panel.

Respectfully submitted,



David S. Safran
Registration No. 27,997

Roberts Mlotkowski Safran & Cole, P.C.
P.O. Box 10064
McLean, VA 22102

Telephone: (703) 584-3273

DSS:kmm